

AMENDMENTS TO THE CLAIMS

Claims 1-21 (canceled).

22. (new): A hollow needle applicator for administering a fluid from a cartridge which has a fixed needle, said applicator comprising

- an applicator body in which the cartridge is mounted;
- a piston assembly located within the cartridge and slidable therein to discharge the fluid contents of the cartridge via the needle;
- a force applying actuator mounted into the body and having at least one force transmitting part which provides a coupling with the piston assembly effective to displace the piston assembly within the cartridge to discharge contents of the cartridge;
- a provision for automatic needle retraction after cartridge contents discharge comprising spring means arranged within a forward portion of the applicator body to act between the applicator and the cartridge to which the needle is fixed; and
- means for release of the coupling between the force transmitting part or parts of the actuator and the piston assembly;

wherein the piston assembly comprises a deformable piston, a piston rod which transmits force to the piston from the actuator, and a triggering means which is movable by the piston, when deformed into the end of the cartridge, to release the coupling between the force transmitting part or parts of the actuator from the piston assembly and bring about needle retraction.

23. (new): An applicator according to claim 22 wherein the piston rod is hollow and has driven extension parts which co-operate with the force transmitting part or parts of the actuator and are deflectable away from each other upon release of said drive coupling and the triggering means comprises a rod which is slidable within the hollow piston rod to deflect said parts.

24. (new): An applicator according to claim 22 wherein the piston rod has driven extension parts which co-operate with the force transmitting part or parts of the actuator and

are deflectable towards each other upon release of said drive coupling and the triggering means comprises a collar slidable about the piston rod to deflect said parts.

25. (new): An applicator according to claim 22 wherein the piston rod has driven extension parts which co-operate with the force transmitting part or parts of the actuator and are coupled thereto by way of a drive coupling ring which is provided with spaced apertures and is rotatable by the triggering means to allow passage of the force transmitting and driven extension parts through these apertures.

26. (new): A hollow needle applicator for administering a fluid from a cartridge which has a fixed needle, said applicator comprising
an applicator body in which the cartridge, including its needle, is mounted;
a force applying actuator mounted in the body for movement therein to drive the cartridge or a carrier for the cartridge forwards to extend the needle from the applicator body, in which respect the actuator and the cartridge, or its carrier, have co-operating drive and driven parts; and

release formation means provided in or on the body to release said co-operating parts after predetermined movement of the cartridge to extend the needle from the applicator.

27. (new): An applicator according to claim 26 wherein the release formation means comprises at least one deflector element projecting internally of the applicator body.

28. (new): An applicator according to claim 27 wherein the deflector element is formed integrally with the applicator body as part of an injection molded unit.

29. (new): An applicator according to claim 27 wherein the deflector element projects rearwardly from a forward portion of the applicator body and substantially parallel to the axis of the applicator body.

30. (new): An applicator according to claim 26 wherein the co-operating driving part of the actuator comprises at least one deflectable extension of the actuator.

31. (new): An applicator according to claim 26 wherein the release formation means is arranged to deflect the co-operating driving part of the actuator outwardly of the co-operating driven part of the cartridge or its carrier.

32. (new): An applicator according to claim 26 wherein the co-operating driving part of the actuator and the co-operating driven part of the cartridge or its carrier are in direct contact with each other prior to their release by the release formation means.

33. (new): An applicator according to claim 26 wherein the co-operating driving part of the actuator comprises at least one narrow extension of the actuator and this is coupled to the driven part or parts of the cartridge by way of a drive coupling ring which is provided with spaced apertures and is rotatable by the release formation means to allow passage of the driving and driven parts through those apertures.

34. (new): An applicator according to claim 26 wherein the actuator is driven by a drive spring and wherein the drive spring includes a release mechanism.

35. (new): An applicator according to claim 26 wherein the movement of the cartridge to extend the needle from the applicator body is limited by abutment of a shoulder of the cartridge or its carrier against an internal ledge or other projection of the applicator body.

36. (new): An applicator according to claim 26 further including a piston assembly located within the cartridge and slidable therein to discharge the fluid contents of the cartridge via the needle, wherein the actuator has at least one additional force transmitting part which provides a coupling with the piston assembly effective to displace the piston assembly within the cartridge to discharge contents of the cartridge only after release of the aforesaid co-operating parts of the actuator and the cartridge or its carrier.

37. (new): An applicator according to claim 36 wherein the additional force transmitting means of the actuator for contents discharge is axially parallel to the driving parts of the actuator for needle extension.

38. (new): An applicator according to claim 36 wherein the additional force transmitting means of the actuator for contents discharge is arranged radially inside the co-operating driving parts of the actuator for needle extension.

39. (new): An applicator according to claim 36 wherein a provision for automatic needle retraction after cartridge contents discharge comprising spring means arranged with a forward portion of the applicator body to act between the applicator and the cartridge to which the needle is fixed, and means for release of the coupling between the additional force transmitting part or parts of the actuator and the piston assembly.

40. (new): An applicator according to claim 39 wherein the piston assembly comprises a deformable piston, a piston rod which transmits force to the piston from the actuator and triggering means which is moveable by the piston, when deformed into the end of the cartridge, to release the coupling between the force transmitting part or parts of the actuator and the piston assembly to bring about needle retraction.

41. (new): An applicator according to claim 40 wherein the piston rod is hollow and has driven extension parts which co-operate with the additional force transmitting part or parts of the actuator and are deflectable away from each other upon release of said drive coupling and the triggering means comprises a rod which is slidable within the hollow piston rod to deflect said parts.

42. (new): An applicator according to claim 40 wherein the piston rod has driven extension parts which co-operate with the additional force transmitting part or parts of the actuator and are deflectable towards each other upon release of said drive coupling and the triggering means comprises a collar slidable about the piston rod to deflect said parts.